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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/960,523 | 09/21/2001 | Roland M. Hochmuth | 10010901 -1 | 5310 |

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
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EXAMINER

NGUYEN, HAU H

ART UNIT PAPER NUMBER

2676

DATE MAILED: 04/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/960,523

Applicant(s)

HOCHMUTH ET AL.

Examiner

Hau H Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments, filed November 2, 2004, with respect to the rejections of claims 1-19 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of Schauser (U.S. Patent No. 6,331,855).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 6-8, 13-14, 16-17, 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Schauser (U.S. Patent No. 6,331,855).

Referring to claims 1, 3, 6, 14, 16, and 19, as shown in Fig. 1, Schauser teaches a source processing system 2 communicates with a remote processing system 4 via a communication or transport medium 6 (Fig. 1A) (col. 3, lines 57-60) (a network interface circuit). Schauser further teaches the CPU 12 may poll a number of subregions (tiles) or lines of the screen, to determine if a change has occurred. In that regard, the subregions (tiles) or lines may be predetermined locations, statistically determined location(s) or arbitrarily determined locations. In particular, each frame of pixels that are currently displayed are stored in the frame buffer 18 (corresponding to a temporary memory), while the pixels representing a previously displayed image, for

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example, the last updated image, are stored in system memory 16 (corresponding to a frame buffer memory). The techniques of the present invention compares a portion of the currently displayed image to a corresponding portion of a previously displayed image to determine if changes have occurred (a comparison logic). If so, the changes are stored (overwriting the stored graphics information with the compared portion) and/or forwarded to the remote computer 4 (a transmission logic) (FIG. 1A and 5) (col. 5, lines 6-23). Schauser further teaches the remote computer 4 receives the changes forwarded by the source computer 2 and subsequently updates the pixels in its frame buffer (col. 5, lines 40-42) (input logic to format and store a portion of a frame into an appropriate location of a frame buffer memory).

In regard to claims 2, 13, and 17, as cited above, Schauser teaches each frame of pixels that are currently displayed are stored in the frame buffer 18, while the pixels representing a previously displayed image, for example, the last updated image, are stored in system memory 16. Thus, the system memory 16 should inherently store an entire frame to perform the comparison.

In regard to claims 7 and 8, Schauser teaches the communication or transportation medium 6 may be any communication or transportation medium, such as a network, telephone line, etc (col. 4, lines 3-6), thus including a local or a wide area network.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schauser (U.S. Patent No. 6,331,855).

Referring to claims 10-12, as cited above, Schauser teaches all the limitations of claims 10-13, except for a second input, a second frame buffer, and a second temporary memory. However, it would have been obvious to one skilled in the art to modify the apparatus as taught by Schauser and add another video input, another frame buffer, and another temporary memory in the manner described above in order to simultaneously transmit graphics information to more computers.

6. Claims 5, 15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schauser (U.S. Patent No. 6,331,855) in view of Szamrej (U.S. Patent No. 5,990,852).

Referring to claims 5, 15, and 18, although Schauser does not teach compressing the changed portion of the frame before transmission, and decompressed at the receiving destination, techniques of compressing and decompressing during transmission of graphics information are well known in the art as described in Szamrej '852.

Szamrej teaches a method of transmitting display data from a first display to a second display by segmenting the first display into blocks; calculating and storing first values, each representing contents of one of the blocks; calculating second values, each representing the contents of one of the blocks, after the first values are calculated; and transmitting changed blocks from the first display to the second display when the first and second values for the changed blocks are unequal (Fig. 2B, steps 40-44). Szamrej further teaches the video memory

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corresponding to the blocks in the optimal rectangle (for a set of changed blocks) is read and stored temporarily in a buffer. The screen data in the temporary buffer is compressed using a conventional method and transferred to the remote display, together with the pointers or range of pointers identifying where the data should be displayed on the screen. The values computed in step 28 (FIG. 2A) using, e.g., CRC64, may also be transmitted with the screen data. The local and remote computer systems can then cache the screen data, the pointers and the computed values, to further reduce the amount of data to be transmitted and compression/decompression processing (col. 8, lines 36-57).

Therefore it would have been obvious to one skilled in the art to utilize the method as taught by Szamrej in combination with the method as taught by Schauser in order to provide a screen transfer method that is efficient in use of CPU resources, memory, and bandwidth (col. 2, lines 11-13).

7. Claims 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schauser (U.S. Patent No. 6,331,855) in view of Gosselin et al. (U.S. Patent No. 6,094,453).

Referring to claims 4 and 9, as cited above, Schauser teaches all the limitations of claims 4 and 9, except that the video signal is an analog video signal, and the network interface circuit is configured to format graphics information into IP packets.

However, Gosselin et al. teach a system and method for compressing and transmitting video data over a transmission medium, wherein a base image representing a reference for comparison of successive images in order to detect change in the successive images is then stored. The changes from the base image are encoded by storing the location of any change and

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the value of changed data, where the location of any change is stored in the form of a header file (col. 3, lines 8-32). Gosselin et al. further teach the received video signal is analog video signal (col. 6, lines 8-16), and the graphics information is formatted into internet protocol packets to be transmitted over the network (col. 13, lines 19-34).

Therefore, it would have been obvious to one skilled in the art to utilize the method as taught by Gosselin et al. in combination with the method as taught by Schauser in order to provide improved video transmission (col. 4, lines 2-6).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hau H. Nguyen whose telephone number is: 571-272-7787. The examiner can normally be reached on MON-FRI from 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on 571-272-7778.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D. C. 20231

or faxed to:

(703) 872-9306 (for Technology Center 2600 only)

Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, Sixth floor (Receptionist).

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (571)-272-2600.

H. Nguyen

04/18/2005

A handwritten signature in black ink, appearing to read "Matthew C. Bella". The signature is fluid and cursive, with the first name "Matthew" being more prominent than the last name "Bella".

MATTHEW C. BELLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600